The cardholder would enter the PIN into the card. Once the PIN is verified the card transmits a special code to the ATM for access to the system. PIN verification as well as credit balance verification may also be done on the ITC independent of a bank terminal. In such circumstances, the ITC verifies that sufficient credit exists for a transaction and then generates an approval code for the merchant to receive the transaction. The use of the ITC card provides an additional layer of security against fraudulent access not found in other systems. In addition, the PIN may be changed, at any time, by the cardholder without having to change any cardholder information within the ATM system itself.

The ITC may also operate independently, sometimes referred to as in "stand alone" mode. Thus applications, for example, credit verification and the like, may be done without the need of a terminal device such as an ATM or point of sale (POS) terminal.

An ITC card may be used to store medical information such as the cardholder's complete medical history or medical insurance coverage. The cards may also be used in the education field for the storage and retrieval of school records, activities, class scheduling.

Numerous other applications will be evident in view of the foregoing description.

What is claimed is:

1. An intelligent transaction card comprising:
- a transaction card-shaped housing;
- a means contained within the housing to provide power to operate the card;
- a keypad located on a surface of the housing for entry of information by a user;
- a display located on a surface of the housing for the presentation of information;
- a microprocessor contained within the housing;
- at least one port in said housing connected to the microprocessor for the input and output of information;
- a microprocessor memory contained within the housing and connected to said microprocessor; and
- an operating system program stored in the memory and controlling operation of the card through the microprocessor, comprising:
- a means for generating a plurality of messages on the display that prompt the user during the operation of the card to select from a plurality of application programs which reside in the microprocessor memory;
- means for switching control of the microprocessor form the operating system program to a selected application program; and
- means for modifying at least one program stored in said memory.

2. The intelligent transaction card of claim 1 wherein the keypad is multifunctional and programmable.

3. The intelligent transaction card of claim 1 wherein the means to provide power is a connection in the housing to an external power supply.

4. The intelligent transaction card of claim 1 wherein the means to provide power is an electromagnetic energy receiver mounted in said housing.

5. The intelligent transaction card of claim 1 wherein the means to provide power is a solar cell mounted in said housing.

6. The intelligent transaction card of claim 1 wherein a solar cell acts as a switch to turn the intelligent transaction card on and off.

7. The intelligent transaction card of claim 1 wherein the port is an optical input/output port.

8. The intelligent transaction card of claim 1 wherein the port is an electrical input/output port.

9. The intelligent transaction card of claim 1 further comprising circuitry to receive and transmit magnetically encoded information to an external device.

10. The intelligent transaction card of claim 1 wherein said operating system comprises:
- a plurality of modules operable while in an idle state to monitor the keypad, the ports and to update the date and time; and
- a plurality of service routines to control the display, the ports the keyboard, the memory and the application programs.

11. The intelligent transaction card of claim 1 further comprising at least one undefined programmable function key that may be defined for a specific purpose according to the application.

12. The intelligent transaction card of claim 1 wherein the keypad further comprises application control keys which control the selection and execution of the application programs in the intelligent transaction card.

13. The intelligent transaction card of claim 1 wherein the application control keys are labeled "YES", "NO", "NEXT" and "BACK".

14. The intelligent transaction card of claim 1 wherein the microprocessor memory is an EEPROM.

15. The intelligent transaction card of claim 1 further comprising circuitry to receive and transmit magnetically encoded information to an external device.

16. The intelligent transaction card of claim 1 wherein said means for modifying further comprises:
- means for loading a variety of different application programs into the memory from at least one port.

17. The intelligent transaction card of claim 16 wherein said means for loading comprises:
- means for locating at least one unused portion of said memory for the storage of an application to be loaded; and
- means for relocating address references of said application program based on an absolute address at which said program is loaded.

18. The intelligent transaction card of claim 17 wherein said means for relocating comprises:
- means for temporarily storing a table of relative address references of said application programs;
- means for determining a starting address of said memory at which the beginning of said application program is to be loaded; and
- means for adding the starting address to each relative address reference of the application program.

19. The intelligent transaction card of claim 18 further comprising a means of maintaining in said memory a list of the starting addresses of all application programs stored in said memory, including a means for updating said list upon the loading of a new application program.

20. The intelligent transaction card of claim 17 wherein said operating system further comprises a memory security means for preventing an application program from accessing certain records in memory.

21. The intelligent transaction card of claim 20 wherein said memory security means comprises a means for associating with each record of memory, an authorization number corresponding to an authorized user.